

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellant(s) :	Gary J. FORD et al.	Confirmation No.: 5374
Appln. No. :	10/814,226	Group Art Unit: 3711
Filing Date: :	April 1, 2004	Examiner: William Pierce
For :	FLOORING SYSTEM FOR BOWLING ALLEY	

APPEAL BRIEF UNDER 37 C.F.R. §41.37

Commissioner for Patents
United States Patent and Trademark Office
Customer Service Window, Mail Stop Appeal Brief-Patents
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Sir:

This appeal is from the Examiner's final rejection of claims 1-12, 15-24, 26-29, 31, 32 and 34-40 as set forth in the Final Office Action dated May 7, 2010. A Notice of Appeal was timely submitted on July 28, 2010. Payment of the Appeal Brief fee set forth in 37 C.F.R. §41.20(b)(2) is submitted herewith. Accordingly, this Appeal Brief is being timely submitted, and Appellants' believe that no additional fees are necessary at this time. However, if any fees are necessary for consideration of this Appeal Brief, the undersigned authorizes the charging of any filing fees for the Appeal Brief and/or any necessary extension of time fees to Deposit Account No. 50-2478.

(I) REAL PARTY IN INTEREST

The real party in interest is QUBICAAMF WORLDWIDE LLC, Virginia, assignee of interest in the above-identified application by assignment recorded in the U.S. Patent and Trademark Office on December 6, 2005, at Reel 017325 and Frame 0225.

(II) RELATED APPEALS AND INTERFERENCES

The Appellants, their legal representatives and the Assignees are not currently aware of any appeals, interferences, or judicial proceedings that may directly affect or be directly affected by or have some bearing on the Board's decision in this appeal. Attached hereto is a Related Proceedings Appendix showing no related appeals or interferences.

(III) STATUS OF THE CLAIMS

In the Final Office Action dated May 7, 2010 ("Final Office Action"), claims 1-12, 15-24, 26-29, 31, 32 and 34-40 are pending and rejected. Claims 13, 14, 25, 30 and 33 are canceled. No claims are allowed, objected to, or withdrawn. Accordingly, claims 1-12, 15-24, 26-29, 31, 32 and 34-40 are being appealed and are listed in the "Claims Appendix" attached herewith.

(IV) STATUS OF THE AMENDMENTS

All amendments have been entered. Accordingly, claims 1-12, 15-24, 26-29, 31, 32 and 34-40 as presented in the Amendment filed March 17, 2010, are being appealed and are listed in the "Claims Appendix" attached herewith.

(V) SUMMARY OF THE CLAIMED SUBJECT MATTER

Independent Claim 1

By way of non-limiting example, the invention provides a prefabricated flooring system adapted for use in a bowling center, comprising a plurality of wooden boards 102 having a longitudinal axis. (FIG. 1.) The plurality of wooden boards 102 each has substantially flat side edges along the longitudinal axis. (See, FIG. 2a, page 9, lines 3-5.) Interior boards of the plurality of wooden boards 102 are bonded together by an adhesive applied on the side edges and two of the outermost boards of the plurality of wooden boards 102 being bonded only on one side edge by the adhesive to adjacent corresponding interior boards to form a preformed section of wooden boards. (FIG. 2a, page 11, lines 5-14.) An integrated foul line 104 of contrasting material is bonded to an edge of the preformed section of wooden boards 102 substantially perpendicular to the longitudinal axis (page 9, lines 13-15), wherein the integrated foul line 102 is bonded to a milled portion 202 in the edge of the plurality of wooden boards 102. (FIGS. 4a-4e, page 16, line 8-page 17, line 10.)

Independent Claim 18

By way of non-limiting example, the invention provides a prefabricated flooring system adapted for use in a bowling center, comprising a plurality of wooden 102 boards having a longitudinal axis. (FIG. 1.) The plurality of wooden boards each has substantially flat side edges along the longitudinal axis. (See, FIG. 2a, page 9, lines 3-5.) Interior boards of the plurality of wooden boards 102 are bonded together by an adhesive applied on the side edges and two of the outermost boards of the plurality of wooden boards are bonded only on one side edge by the adhesive to adjacent corresponding interior boards to form a preformed section of wooden boards. (FIG. 2a, page 11, lines 5-14.) The preformed section of wooden boards 102 is a

prefabricated sectioned approach section 200 totally filling an area of the bowling lane in addition to gutter area. (FIG.1, FIG. 2, page 9, line 18, page 10, lines 2-8, page 11, lines 10-15.)

Independent Claim 24

By way of non-limiting example, the invention provides a bowling alley flooring system comprising a bowling lane and a prefabricated approach section 200 abutting the bowling lane. (FIG.1, FIG. 2, page 9, line 18, page 10, lines 2-8, page 11, lines 10-15.) The prefabricated approach section comprise: a plurality of wooden boards 102 having a longitudinal axis. The plurality of wooden boards 102 each having side edges along the longitudinal axis and the plurality of wooden boards 102 being bonded together by an adhesive applied on the side edges wherein two of the outermost boards of the plurality of boards are bonded only on one side edge by the adhesive to adjacent corresponding interior boards to form the prefabricated approach section 200 of wooden boards 102. (FIG. 2a, page 9, lines 3-5, page 11, lines 5-14.) The prefabricated approach section 200 has a thickness approximately the same as the bowling lane, which is a laminate floor (Page 6, lines 13-15, page 9, lines, 9-10, page 10, lines 10, 11, and page 14, line 18 to page 15, line 4.)

Independent Claim 38

By way of non-limiting example, the invention provides a prefabricated flooring system adapted for use in a bowling center, comprising a plurality of wooden boards 102 having a longitudinal axis. (FIG. 1.) The plurality of wooden boards 102 each has a long side edge and a short side edge. (FIG. 2b, page 16, lines 8-11.) The short side edges of abutting wooden floors of the plurality of wooden floors 102 have interleaved finger joints bonded together by an adhesive applied thereon and abutting wooden floors 102 along the long sides bonded together

by an adhesive applied thereto with two of the outermost boards of the plurality of wooded boards 204 bonded only on one side edge by the adhesive to adjacent corresponding interior boards to form a preformed section of wooden boards 102. (FIG. 2a, page 11, lines 5-14.)

(VI) GROUND'S OF REJECTION TO BE REVIEWED ON APPEAL

- (A) Claims 7 and 40 are rejected under 35 U.S.C. 112, 2nd Paragraph.
- (B) Claims 24 and its dependent claims are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.
- (C) Claims 1, 4, 6, 8-12, 15-19, 24, 28, 31, 32, 34, 39 and 40 are rejected under 35 U.S.C. §102(b) for being anticipated by U. S. Patent No. 4,169,602 issued to Heddon.
- (D) Claims 2, 3, 26 and 27 are rejected under 35 U.S.C. §103(a) for being unpatentable over Heddon.
- (E) Claims 5 and 29 are rejected under 35 U.S.C. §103(a) for being unpatentable over Heddon in view of U. S. Patent No. 2,969,983 to De Vore.
- (F) Claims 7 and 40 are rejected under 35 U.S.C. §103(a) for being unpatentable over Heddon and U.S. Patent No. 5,888,142 to Pierre.
- (G) Claims 20, 21, 35 and 36 are rejected under 35 U.S.C. §103(a) for being unpatentable over Heddon and U.S. Patent No. 6,645,082 to Lessard.
- (H) Claims 22 and 37 are rejected under 35 U.S.C. §103(a) for being unpatentable over Heddon and U.S. Patent No 4,146,223 to Scottman.

(I) Claims 1-12, 15-24, 26-29, 31, 32 and 34-40 are rejected under 35 U.S.C. § 103(a) for being unpatentable over De Vore and Heddon and U.S. Patent No. 5,348,513 to Heddon ("Heddon II").

(VII) ARGUMENTS

(A) Rejection of Claims 7 and 40 are rejected under 35 U.S.C. 112, 2nd Paragraph.

The rejection of claims 7 and 40 under 35 U.S.C. § 112, 2nd paragraph is in error, and the decision to reject this claim should be reversed.

According to MPEP §2173.02, the test for definiteness under 35 U.S.C. § 112, second paragraph, is whether "those skilled in the art would understand what is claimed when the claim is read in light of the specification." *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1576, 1 USPQ2d 1081, 1088 (Fed. Cir. 1986). Definiteness of claim language must be analyzed, not in a vacuum, but in light of: (A) the content of the particular application disclosure; (B) the teachings of the prior art; and (C) the claim interpretation that would be given by one possessing the ordinary level of skill in the pertinent art at the time the invention was made.

Claim 7

The Examiner argues:

Claimed is "a prefabricated flooring system" in claim 1 and that it is intended to be "used as a section of an approach section". Nowhere is either "remaining sections" or an "approach section" being positively recited or claimed in combination. One would have to infer that an approach having a plurality of sections has been previously recited. Yet such is not claimed since the only reference to an approach and any remaining sections is done functionally in recitations as to how the prefabricated flooring system is to be used. This is in [contrast] to structurally and positively reciting these [limitations] in combination as a part of

the claimed invention. Quite clearly, the Examiner's position is that the claims do not positively recite that the prefabricated flooring system to include either an approach or a plurality of sections and that any references to such are inferred or functional at best. As such, this grounds for rejection remains.

Claim 7 depends from claim 6 which, in turn, depends from claim 1. Although claim 1 recites a prefabricated flooring system, claim 6 further defines the prefabricated preformed section as including "an approach section of a bowling lane". Accordingly, in claim 6, an "approach section" is positively recited, and forms a structural part of the claimed invention. Also, claim 7, which depends from claim 6, recites the "approach section" and, for the first time, "remaining portions". Claim 7 clearly recites that the "remaining portions" are part of the approach section. Appellants also note the "remaining portions" are clearly provided in a structural context, e.g., "remaining portions" are synthetic boards. Accordingly, the terms "approach section" and "remaining sections" are positively recited, with structure, and do not lack antecedent basis.

The Examiner also argued that the approach section and any remaining sections are functionally recited, and this is in contrast to structurally and positively reciting these limitations in combination as a part of the claimed invention. Again, the features of "remaining portions" and "approach section" are positively recited and, as such, are clear and definite as defined in the claimed invention. Second, the "remaining portions" and the "approach section" are clearly structural, e.g., claim 7 recites that the remaining portions of the approach section are synthetic boards. In this context, the "remaining portions" and the "approach section" are clearly structural.

The specification also clearly defines the approach section and the remaining sections such that one of ordinary skill in the art would understand what is claimed when the claim is read

in light of the specification. For example, the paragraph spanning between pages 9 and 10 discloses:

Referring now to FIG. 1, a diagram of the flooring system of the invention is shown. In the embodiment of FIG. 1, the flooring system includes a bowling lane depicted as reference numeral 100 and an approach section generally depicted as reference numeral 200. The bowling lane 100 is a longitudinally extending lane having a plurality of parallel abutting strips of wood 102. In one aspect, each of the abutting strips of wood 102 is laid in a conventional manner and is approximately 23/4 inches in thickness to, amongst other reasons, prevent splintering from the horizontal nails applied during the installation process. However, the lanes may also be fabricated in accordance with the invention, as discussed below. In other implementations, the lane is made of a laminate sheet, without the requirement for individual boards. The thickness of the laminate is typically 1/2 inch thick or less than that of wooden floors.

Also, the paragraph spanning pages 10 and 11 discloses:

In one application, the bowling lane is divided into three sections, "A", "B" and "C". Section "A" is the head/arrow section, adjacent to the foul line 102. Section "B" is the pine section and section "C" is the pin deck area. In this application, the bowling lane, in total, is approximately 25, 35 and 4 feet, respectively, in length. In the wood planking application, the section "A", which is a high impact area, may be a hard wood where the remaining sections are a softer wood for example, pine. It should be understood that the invention should not be limited to the use of beech, maple and pine, and other materials may equally be used with the invention. For example, the bowling lane 100 may be a high pressure laminate flooring system, approximately 42 inches in width (from edge to edge).

Accordingly, Appellants request that the rejection of claim 7 is clearly described in the specification in such a manner as to allow one of ordinary skill in the art to understand the invention.

Claim 40

Appellants note that the Examiner has not addressed independent claim 38, which is the base claim for claim 40. In an attempt to be as complete as possible and to adequately address all outstanding issues, Appellants will discuss claim 38, in the context of the present invention.

Claim 40 depends from claim 39 which, in turn, depends from claim 38. Claim 38 clearly defines preformed section of wooden boards. Claim 39, which depends on claim 38, further defines the preformed section as a section of an approach area. Claim 40, in turn, recites that remaining portions of the approach area are laminate boards of synthetic material or residual wood approach. Accordingly, in claim 39, an “approach area” is positively recited, and forms a structural part of the claimed invention. Also, claim 40, which depends from claim 39, recites remaining areas of the “approach area” to be of a laminate and, for the first time, recites “remaining portions” of the approach area. Also, the remaining portions are clearly defined in terms of structure, e.g., are laminate boards of synthetic material or residual wood approach. Accordingly, the terms “remaining portions” and “approach area” are not being inferentially claimed; instead, these limitations are positively recited and connote structure.

The Examiner also noted that the approach area and any remaining sections are functionally recited, and this is in contrast to structurally and positively reciting these limitations in combination as a part of the claimed invention. Again, the features of “remaining portions” and “approach area” are positively recited and, as such, are clear and definite as defined in the claimed invention. Second, the “remaining portions” and the “approach area” are clearly structural, e.g., claim 40 recites that the remaining portions are laminate boards of synthetic material or residual wood approach. In this context, the “remaining portions” and the “approach section” or “approach area” are clearly structural.

The specification also clearly defines the approach area and the remaining sections such that one of ordinary skill in the art would understand what is claimed when the claim is read in light of the specification. For example, the paragraph spanning between pages 9 and 10 discloses:

Referring now to FIG. 1, a diagram of the flooring system of the invention is shown. In the embodiment of FIG. 1, the flooring system includes a bowling lane depicted as reference numeral 100 and an approach section generally depicted as reference numeral 200. The bowling lane 100 is a longitudinally extending lane having a plurality of parallel abutting strips of wood 102. In one aspect, each of the abutting strips of wood 102 is laid in a conventional manner and is approximately $23/4$ inches in thickness to, amongst other reasons, prevent splintering from the horizontal nails applied during the installation process. However, the lanes may also be fabricated in accordance with the invention, as discussed below. In other implementations, the lane is made of a laminate sheet, without the requirement for individual boards. The thickness of the laminate is typically $1/2$ inch thick or less than that of wooden floors.

Also, the paragraph spanning pages 10 and 11 discloses:

In one application, the bowling lane is divided into three sections, "A", "B" and "C". Section "A" is the head/arrow section, adjacent to the foul line 102. Section "B" is the pine section and section "C" is the pin deck area. In this application, the bowling lane, in total, is approximately 25, 35 and 4 feet, respectively, in length. In the wood planking application, the section "A", which is a high impact area, may be a hard wood where the remaining sections are a softer wood for example, pine. It should be understood that the invention should not be limited to the use of beech, maple and pine, and other materials may equally be used with the invention. For example, the bowling lane 100 may be a high pressure laminate flooring system, approximately 42 inches in width (from edge to edge).

Accordingly, Appellants request that the rejection of claim 40 is clearly described in the specification in such a manner as to allow one of ordinary skill in the art to understand the invention.

**(B) Rejection of Claim 24 and its
Dependent Claims under 35
U.S.C. 112, 1st Paragraph.**

The rejection of claim 24 and its dependent claims under 35 U.S.C. §112, 1st paragraph, is in error, and the decision to reject this claim should be reversed.

Claim 24 and its dependent claims are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The Examiner is of the opinion that the claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. More specifically, the Examiner is of the opinion that

Claim 24 has been amended to recite a "laminated floor" and Appellant argues a special meaning of the term in his remarks. Such a term or description of the disclosed flooring system is not set forth in the specification and as such is considered new matter.

Appellants submit that the recitation of laminated floor is not new matter. Appellants have clearly recited in the specification the term laminated floor, and its properties. The term laminate floor and its properties, as defined in the specification, are clearly consistent with that of the definitions provided by Appellants. The definitions provided by the Appellants are not adding any new matter; instead, they are showing the Examiner that laminated floors have a special meaning in the art, contrary to that which is provide by the Examiner. This special meaning was already described in the specification. In any event, even if the special meaning was not described in the specification, the use of the term laminate floor, in of itself, is sufficient to inform one of skill in the art the structural features of such a flooring system.

The specification clearly defines a laminate flooring system at FIG. 2a and description thereof, e.g., page 11, line 5 to page 15, line 16, which is consistent with Appellants' arguments.

For example, as a brief description of FIG. 2a, as disclosed at pages 11 and 12:

Also, to add even more durability to the system, the prefabricated flooring system may include an underlay, e.g., one or more layers of product, under the wood flooring. The underlay may be attached to the prefabricated flooring system via any known bonding adhesive or other fastening methods such as screws. FIG. 2a may also equally represent the installation of the prefabricated flooring system on an underlay already laid in the approach section, for example, at the bowling center.

The underlying layer or layers, designated as "L", may be manufactured from a synthetic material such as medium density fiber (MDF) or high density fiber (HDF) boards or oriented strand board (OSB) or high density particle board (HDP), which is less expensive than that of the wood upper layer. The underlay also may be representative of the already existing approach section, whether that be a synthetic laminate or wood. Depending on the application and desired thickness of the approach section 200, any number of underlay layers can be applied to the wooden top layer. The underlying layers can also increase the durability features of the prefabricated flooring system, e.g., reduce warping, due to the properties of the underlying MDF or HDF, etc.

In the applications of the invention, the flooring system can be readily prefabricated at the factory in order to reduce installation time at the bowling alley. The approach section 200 can also be pre-finished with a varnish or a lacquer or other durable UV cure finish prior to installation at the bowling alley. Both prefabrication and the prefinishing will add strength to the flooring system making it more durable and less wear and dent resistant. This, in turn, will maintain the bowling lane in operable condition for a longer period of time and hence increase profitability. The prefabrication of the approach section can also be used for retrofitting of this section when replacing other wood approach floors or laminate floors.

The arguments made by Appellants are consistent with the definition provided in the specification and cannot be considered new matter. Appellants are merely reiterating what is already well known in the art to those of ordinary skill, and which Appellants had possession at

the time of the invention. For example, Appellants only note that the laminate is provided with a special meaning, and that this meaning should be understood to include:

Laminate floors, on the other hand, have a special meaning in the art. For example, according to the Laminate Flooring Glossary at www.pmel.org/Flooring-Glossary.htm, laminate floors are defined as:

Laminate Flooring: Relatively new to North America, laminates have a dense fiberboard core with a paper pattern layer sealed under high pressure both top and bottom with a plastic-like substance. Sold as planks and panels in wood, stone, tile and other looks.

Similar definitions are provided at: 1) en.wikipedia.org/wiki/Laminate_flooring, 2) www.nalfa.com/glossaryEnglish.php, 3) www.bakerbros.com/contentpage.aspx, 4) www.remnantkingcarpets.com/Glossary.html, and 5) ezinearticles.com/

There is nothing inconsistent or newly added with regard to this definition and that presented in the specification of the instant invention. Both the definition above and the specification refer to laminates with a fibreboard core (e.g., MDF or HDF, as discussed in the specification) with a plastic-like substance (e.g., UV cure finish).

Moreover, Appellants submit that the arguments presented, in any event, cannot be considered new matter. New matter refers to amendments made to the claims, specification or drawings. An argument, alone, cannot be considered introducing new matter. See, e.g., MPEP 608.04 and 706.03(o).

- (C) **Claims 1, 4, 6, 8-12, 15-19, 24, 28, 31, 32, 34, 39 and 40 are rejected under 35 U.S.C. §102(b) for being anticipated by U. S. Patent No. 4,169,602 issued to Heddon.**

The rejection of claims 1, 4, 6, 8-12, 15-19, 24, 28, 31, 32, 34, 39 and 40 under 35 U.S.C.

§102(b) is in error, and the decision to reject this claim should be reversed.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). See MPEP §2131. Appellants submit that the applied art does not show each and every feature of the claimed invention.

In this rejection, the Examiner is of the opinion that

"As to claims 1 and 38, Heddon shows a prefabricated flooring system (abstract, In. 1) comprising a plurality of wooden boards bonded together by an adhesive (col. 5, Ins. 35-37) on its side edges as shown in fig. 15C at 100 and 102. While Heddon does not discuss the two outermost boards, such considered inherent and shown by his fig. 10 where only one side edge needs adhesive since there is no adjacent board. As to claim 4, 17, 18, 24, 30 and 39 the flooring system used in an approach is shown making up elements 20, 26 and 28. The thickness of the approach is considered the approximately the same as described at col. 6, Ins. 29-33. The bowling alley of Heddon is considered laminated as called for by claims 25, 28 and 40 and as described in the abstract at line 3 of Heddon. Elements 20 and 26 are approximately equal to the width of a bowling alley as called for by claim 19. Element 28 is a filler section to extend past the gutters and ball return of the alley. Known is that a bowling lane is between 41 and 42 inches and as such the approach of Heddon consisting of 20, 26 and 28 is wider as shown in fig. 1. As to claim 6, Heddon shows the preformed section 20 and 26 used as a section of an approach. As to claims 8 and 31, finishing the lane is shown at col. 7, In 14. Curable polyurethanes are well known and considered inherent in Heddon. A fiberboard ass underlayment as called for by claims 9-12 and 32 is shown at 50 which is bonded to the boards (col. 5, In. 42). An integrated foul line as called for by claims 14 and 34 is shown at 18 that is bonded to a groove as shown in fig. 12 (col. 5,

In. 21) as called for by claim 15. The foul line is considered to be a block as shown in fig. 12 and called for by claim 16."

Appellants do not agree with the Examiner for the following reasons.

By way of background, the invention is directed to a prefabricated flooring system used in a bowling alley. The invention provides many advantages not found in any reference alone or in combination. By using the prefabricated wood flooring system, the thickness of the wood boards of the approach section can be considerably reduced to, in instances, less than that of conventional systems and can approach the thickness of the laminate bowling lane. The approach section can also have an increased width size to reduce installation time at the site. Also, in these applications, nailing of the boards is no longer required in the horizontal direction, thereby reducing the likelihood of splintering of the wood during fabrication. Another advantage of the system of the invention is the elimination of the tongue and groove system. That is, the side edges are flat. This feature will eliminate any stresses that form at the tongue and groove connection thus eliminating any potential cracking or splintering of the wood boards. These features are not provided by any of the references, alone or in combination.

Claim 1

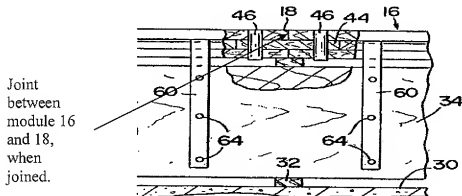
Claim recites, in pertinent part:

A prefabricated flooring system adapted for use in a bowling center, comprising an integrated foul line of contrasting material bonded to an edge of the preformed section of wooden boards substantially perpendicular to the longitudinal axis, wherein the integrated foul line is bonded to a milled portion in the edge of the plurality of wooden boards.

Heddon does not show an integrated foul line with contrasting material, much less the foul line bonded to a milled portion in the edge of the wooden boards. Also, Heddon does not show an integrated foul line of contrasting material bonded to an edge of the preformed section

of wooden boards substantially perpendicular to the longitudinal axis. Instead, Heddon merely shows a foul line 18 that is made from a joint of an approach lane module 20 and lane module 16.

More specifically, the Examiner is of the opinion that Heddon shows a foul line bonded to a groove as shown in Fig. 12. Appellants disagree with the Examiner. Appellants submit that fig. 12 does not show a groove, much less a foul line bonded to a groove. Fig. 12 also does not show an integrated foul line of contrasting material bonded to an edge of the preformed section of wooden boards substantially perpendicular to the longitudinal axis. Instead, Fig. 12 clearly shows a portion of the approach lane module 20 and bowling lane module 16 in an exploded view (prior to installation). In this view, Heddon shows that the foul line 18 consists of the joint made between the approach lane module 20 and the bowling lane module 16. As best shown in Fig. 3, which is reproduced below, the foul line 18 consists of the joints of the module, and would be of the same material of the modules 16 and 20. That is, the foul line 18 is not (i) placed in a groove (or milled section), (ii) is not shown to be of a contrasting material, and (iii) is not an integrated foul line bonded to an edge of the preformed section of wooden boards substantially perpendicular to the longitudinal axis.



Appellants also submit that Heddon specifically notes the use of inlays with reference to ball guides (See, col. 4, lines 38-39). However, in the very next sentence Heddon discloses the

use of the foul line 18, but is completely silent as to such foul line being inlaid. For this reason, it is apparent that Heddon did not contemplate the foul line 18 to be inlaid, which would add to the complexity and cost of the Heddon system. Instead, Heddon clearly only discloses and contemplates the foul line 18 to be a joint between two modules 16, 20.

The Examiner is also of the opinion that

Heddon explicitly shows grooves 40 and 42 (col. 5, In. 23). These grooves are considered to be in an edge portion of the plurality of wood boards that make up panel 16. Subsequently applicant states that an integrated foul line of contrasting material bonded is not shown. Examiner does not agree since figure 12 shows the foul line as contrasting most broadly in that it is made as a separate element of material that is "contrasting" to the lane and that it is bonded with "some form of adhesive.. to form an adhesive bond" (col. 5, In. 21).

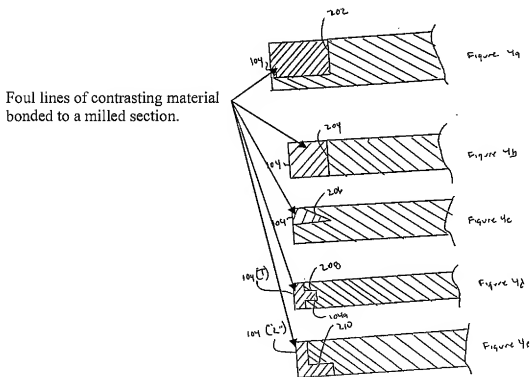
Appellants respectfully submit that the Examiner appears to be misinterpreting Heddon. Heddon does, indeed, show grooves 40, 42, but these grooves are not milled portions for bonding of an integrated foul line. The grooves 40, 42 are provided to vertically align and attach the end of lane module 14 with the end of lane module 12 by a splice plank. More specifically, as disclosed at the passage spanning cols. 4 and 5 of Heddon:

Referring now to FIGS. 1 and 11, the means for rigidly coupling the end surfaces 38 of adjacent lane modules is shown. A horizontally oriented groove 40 is disposed in the end of lane module 14, while another horizontally oriented groove 42 is disposed in the adjacent end of lane module 12. A splice plank 44 is inserted within grooves 40 and 42 in order to vertically align and attach the end of lane module 14 with the end of lane module 12.

These grooves 40, 42 are used to connect two panels together by use of the splice plank 44. These grooves cannot make any part of the foul line, as they are not even seen by a bowler when the planks are spliced together. Similarly, the splice plank 44 cannot make any part of the foul line, as it is not even seen by a bowler when the planks are spliced together. Instead, once

the planks are spliced together, only a joint 18 between the modules is visible. This joint surely cannot be considered an integrated foul line of contrasting material bonded to an edge of the preformed section of wooden boards substantially perpendicular to the longitudinal axis.

In contrast, the integrated foul line of contrasting material bonded to an edge of the preformed section of wooden boards of the claimed invention is illustratively shown in FIGS. 4a-4e of the present invention, which is reproduced below. As shown in each of these various embodiments, the foul line is a contrasting material (as shown by the different cross hatching) which is visible from the top side. These foul lines are clearly shown bonded to a milled section.



Lastly, the Examiner is of the opinion that

Applicant argues an interpretation of Heddon using and his fig. 8 which is not convincing since Heddon describes the structure of his foul line using the same terms in the "groove" and "bonded".

Appellants do not see the relevance of fig. 8 of Heddon. Figure 8 does not show a foul line, much less a foul line of contrasting color that is bonded to a milled section. Figure 8 only shows the upper deck of panel 54 for key way module 76. Also, the use of “groove” and “bonded” with regard to fig. 8 has no relationship, whatsoever, to the foul line or it being bonded to a milled section. The Examiner is completely taking these terms out of context. The term “bonded” used with fig. 8 shows that the upper deck of panel 54 of lane module 16 is formed from a plurality of laminated hardwood strips, the vertical side surfaces of each having been adhesively bonded. This is irrelevant to the foul line.

Claim 18

Claim recites 18 recites, in pertinent part:

... wherein the preformed section of wooden boards is a prefabricated sectioned approach section totally filling an area of the bowling lane in addition to gutter area.

Appellants submit that these features are not shown in Heddon. Instead, Heddon specifically shows that the approach lane module 20 is of the same size as the remaining modules 10, 12, 14, 16. In fact, the approach lane module 20 in Heddon is specifically designed to be the same size (width) as the remaining modules 10, 12, 14, 16. See, e.g., paragraph spanning cols. 5 and 6. This would teach away from the claimed invention.

Additionally, Heddon specifically describes an approach fill means used to bridge the area between approach modules, created by the gutters. Specifically, col. 6, lines 6-16 discloses:

Referring now to FIGS. 4 and 6, approach fill means 28 will be described. Approach fill means 28 is sixteen feet in length as are all the other approach and lane modules. The approach fill means is designed to bridge the gap between adjacent approach modules. This gap is created by the spacing required for the insertion of the gutters and ball returns between adjacent bowling

lanes. The approach fill means is designed to be readily insertable between adjacent approach modules after the approach modules have been secured to lane support structure 34.

Clearly, the approach module lane 20 does not totally fill an area of the bowling lane in addition to gutter area. Instead, the approach lane module 20 is the size of the space between the gutters.

The Examiner is of the opinion that

Applicant argues that claim 18 is not shown in that Heddon shows his module 20 as being the same size as modules 10, 12, 14 and 15. First, size is not a limitation in the claim and second no limitation on what one considers to be a gutter area is made in the claims. Here, where the limitation of claim 18 are not considered to distinguish over Heddon since his approach section is considered to fill "an area of the bowling lane in addition to the gutter area" as called for by the claims.

Although a specific dimension is not specified in the claimed invention, Appellants submit that the bowling lane and gutter area are well defined terms to those of skill in the art. Accordingly, Appellants clearly describe the necessary features in relation to the preformed section of wooden boards as totally filling an area of the bowling lane in addition to gutter area.

This feature is not met by Heddon. Heddon only shows that the approach lane is the same size as the bowling lane, and that another module, i.e., approach fill means 28, is needed to fill the gaps between the gutters. In view of the configuration of Heddon:

- (i) As the approach module is the same size as the bowling lane modules, this feature cannot meet the limitations of the claimed invention. This is because the bowling lane modules have a width, by definition, to only extend between the gutters (not beyond the gutters). As the approach module is of the same width, it too cannot

extend between the gutters to fill an area of the bowling lane in addition to gutter area.

- (ii) Heddon specifically describes that there is a gap between the gutters that needs to be filled. As there is a gap between the gutters, it would not be possible for the approach module to fill the entire area of the bowling lane and gutter area.
- (iii) Heddon specifically describes the need for a approach filling means, to fill the area between gutters (e.g., a gap left by the approach module). This gap is merely the size of the space between adjacent gutters. Accordingly, the approach filling means also cannot meet the limitations of the claimed invention, e.g., filling the bowling lane in addition to gutter area.

Claim 24

Claim recites 24 recites, in pertinent part:

... the prefabricated approach section having a thickness approximately the same as the bowling lane, which is a laminate floor.

Appellants submit that these features are not shown in Heddon. More specifically, Heddon does not show a laminate floor, much less the approach section having a thickness approximately equal to a bowling lane which is a laminate floor. Instead, Heddon shows five modules 10, 12 14, 16 and 20 that are identical to one another. None of these modules can be considered a laminate floor; instead, the modules are prefabricated wooden floors. Laminate floors, on the other hand, are defined as:

Laminate Flooring: Relatively new to North America, laminates have a dense fiberboard core with a paper pattern layer sealed under high pressure both top and bottom with a plastic-like substance. Sold as planks and panels in wood, stone, tile and other looks.

Similar definitions are provided in the specification and at: 1) en.wikipedia.org/wiki/Laminate_flooring, 2) www.nalfa.com/glossaryEnglish.php, 3) www.bakerbros.com/contentpage.aspx, 4) www.remnantkingcarpets.com/Glossary.html, and 5) ezinearticles.com/

Appellants also note that laminate floors are much thinner than typical bowling floors. This is clearly described in the instant specification. For example, laminate floors can be a thickness of about ½ inch or less, which is unheard in bowling lane applications. In fact, at the time of the invention of Heddon (May 12, 1978), laminate flooring of the type contemplated by the present invention were not even invented, much less in production.

The Examiner is of the opinion that

Applicant's remarks with respect to claim 24 are not persuasive in view of the new matter rejection set [forth] above. Further, the term laminated flooring evaluated for its plain meaning. 1. to cover something with a thin layer, 2. bond layers together 3. A material made up of bonded layers. Where Heddon is considered to show layers bonded together such as 50 and 52 and in fact uses identical term "laminated" (col. 5, In. 37) to describe its construction, this new limitation added to the claim fails to clearly distinguish over the applied art.

To this, Appellants first note that the recitation of a laminate layer is not new matter (as discussed above). Second, Heddon does not mention that the approach section has a thickness approximately equal to a bowling lane and which is a laminate floor. Instead, Heddon clearly describes the lanes as made of strips of hardwood that are glued together along their edges. These are not laminate structures as recited in the claimed invention. In fact, Appellants have described such as system in the present invention and have made a distinction between the use of

wood strips and that of a laminate board. More specifically, the specification of the present invention discloses at pages 9 and 10, amongst other places,

In the wood planking application, the section "A", which is a high impact area, may be a hard wood where the remaining sections are a softer wood for example, pine. It should be understood that the invention should not be limited to the use of beech, maple and pine, and other materials may equally be used with the invention. For example, the bowling lane 100 may be a high pressure laminate flooring system, approximately 42 inches in width (from edge to edge).

In fact, the claimed invention makes the distinction between a wooden panel construction and a laminate.

In contrast, the Heddon system uses the wood plank approach, which is not a laminate structure. That is, Heddon is very specific in that the flooring system is manufactured using wooden planks that are glued to an underlayment. The use of wooden planks, as is known to those of skill in the art, would not be considered a laminate.

Also, there is no indication, whatsoever, that the modules of each of the lane sections of Heddon are designed differently than that of the approach module. That is, all of the modules are constructed by wooden planks, none of which can be considered a laminate product. For example, the claimed invention recites that the approach section is made of wood boards being bonded together, much like that of Heddon. However, the claimed invention notes that the approach section is a laminate floor, which connotes a difference between the approach and the bowling lane floors. In contrast, Heddon shows the same type of flooring system for each of the sections.

Dependent Claims 4, 6, 8-12,
15-17, 19, 28, 31, 32, 34, 39 and 40

Claims 4, 6, 8-12, 15-17, 19, 28, 31, 32, 34, 39 and 40 are dependent claims, depending from distinguishable base claims. By virtue of these dependencies, these claims are also distinguishable.

Claim 16

Claim 16 recites:

The system of claim 1, wherein the milled portion is a groove.

Appellants submit that Heddon does not show these features. Even assuming that reference numeral 18 is a foul line of contrasting color, (which Appellants do not concede) Heddon still does not show the milled portion is a groove that would accommodate the foul line 18. If there is any interpretation, the groove of Heddon accommodates a splice plank 44.

Claim 16

Claim 16 recites:

The system of claim 15, wherein the groove is located at (i) a middle of the edge such that the foul line is a T shape, (ii) a bottom of the edge such that the foul line is an L shape or (iii) a top of the edge such that the foul line is a block.

Appellants submit that Heddon does not show these features. Even assuming that reference numeral 18 is a foul line of contrasting color, (which Appellants do not concede) Heddon still does not show the foul line as (i) a T shape, (ii) an L shape or (iii) a block. Reference numeral 18 is only a joint between two modules 12 and 14.

Claim 17

Claim 17 recites:

The system of claim 1, wherein a width of the preformed section of wooden boards is greater than a bowling alley lane.

Appellants submit that Heddon does not show these features. As discussed above, Heddon does not show any of the modules larger than a width of the bowling lane, itself. For example, the bowling lane modules and the approach lane modules are described as being the same width. The approach filling means, on the other hand, only fills a gap formed between gutters. Accordingly, there are no modules in Heddon that have a width of the preformed section of wooden boards being greater than a bowling alley lane.

Claim 28

Claim 28 recites:

The bowling alley flooring system of claim 24, wherein the prefabricated approach section has a width greater than the bowling lane.

Appellants submit that Heddon does not show these features. As discussed above, Heddon does not show any of the modules larger than a width of the bowling lane, itself. For example, the bowling lane modules and the approach lane modules are described as being the same width. The approach filling means, on the other hand, only fills a gap formed between gutters. Accordingly, there are no modules in Heddon that have a width of the preformed section of wooden boards greater than a bowling alley lane.

Claim 34

Claim 34 recites:

The bowling alley flooring system of claim 24, further comprising an integrated foul line of contrasting material bonded to an edge of the prefabricated approach section substantially perpendicular to the longitudinal axis.

Appellants submit that Heddon does not show these features. Appellants submit, as discussed above, that reference numeral 18 is a foul line, but is not of contrasting color nor is it bonded to prefabricated approach section. Instead, the foul line 18 is only a joint between two modules.

(D) Claims 2, 3, 26 and 27 are rejected under 35 U.S.C. §103(a) for being unpatentable over Heddon.

The rejection of claims 2, 3, 26 and 27 under 35 U.S.C. §103(a) is in error, and the decision to reject this claim should be reversed. Claims 2, 3, 26 and 27 are dependent claims, depending from distinguishable base claims. By virtue of these dependencies, these claims are also distinguishable. Also, these claims stand on their own merits as containing allowable subject matter.

The Examiner argues that

"Heddon does not mention the thickness of the boards. To have made the boards between 3/4 and 2 3/4 inches would have been an obvious matter of choice depending upon the desired costs to manufacture, durability and weight. Such a thickness has not been shown to be critical to applicant's claimed invention by solving any particular problem or producing any unexpected results."

With respect to the ground for rejection of claims 2, 3, 26 and 27 under 103 of Heddon, applicant argues that his claimed smaller thickness saves cost. However, the savings in materials by making a product thinner is expected. One skilled in that art would be aware of other known and expected advantages that would follow such as lighter during installation, and cheaper shipping. This is not considered a patentable advance in bowling lane as [much] as it is design consideration made by one skilled in the art. Quite clearly too thin would reduce durability. It is the optimization of these variables that are considered obvious to one of ordinary skill in the art.

Appellants disagree with the Examiner. Appellants noted in the background section of the specification that

In conventional systems, tongue and groove hardwood blocks or planking is used in both the bowling lane and the approach section. In bowling lane applications, the wood construction consists of several planks or boards that are about 23/4 inch in thickness, and about one inch in width, as measured in the edgewise direction. In the approach sections, the wood planking may be the same thickness in front of the lane (e.g., head section).

The claims, contrary to the conventional system, recite a thickness of less than the 2 3/4 inches and, in particular about 3/4 inches (See, claim 3 and claim 27). These features are not optimization of variables that should be considered obvious to one of ordinary skill in the art.

More specifically, MPEP 2144.05 (II) states:

A particular parameter must first be recognized as a result-effective variable; i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation. *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977) (The claimed wastewater treatment device had a tank volume to contractor area of 0.12 gal./sq. ft. The prior art did not recognize that treatment capacity is a function of the tank volume to contractor ratio, and therefore the parameter optimized was not recognized in the art to be a result-effective variable.). See also *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980) (prior art suggested proportional balancing to achieve desired results in the formation of an alloy).

In the present rejection, the Examiner has not set forth any arguments that the dimensions of the claimed invention are recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation. As such, the Examiner has improperly rejected the claims via the rationale of optimization through routine experimentation. Thus, Appellants respectfully submit the Examiner has not set forth a *prima facie* case of obviousness.

- (E) Claims 5 and 29 are rejected under 35 U.S.C. §103(a) for being unpatentable over Heddon in view of U. S. Patent No. 2,969,983 to De Vore.

The rejection of claims 5 and 29 under 35 U.S.C. §103(a) is in error, and the decision to reject this claim should be reversed. Claims 5 and 29 are dependent claims, depending from distinguishable base claims. By virtue of these dependencies, these claims are also distinguishable.

Also, these claims stand on their own merits as containing allowable subject matter. For example, representative claim 5 recites:

The system of claim 1, wherein the adhesive is one of:

- (i) cold or hot pressed curing adhesive;
- (ii) air drying PVA (Polyvinyl acetates) adhesive;
- (iii) hot melt urethanes; and
- (iv) radiation curing adhesive.

The Examiner is of the opinion that De Vores shows these features at col. 4, line 55 (See, office action of November 2, 2009). Appellants do not agree that De Vores shows the features of the claimed invention.

In particular, the claimed invention requires the adhesive be applied on the side edges of the boards, c.g., referring to the respective base claim. De Vores discloses that the side boards are secured to the baseboard by the adhesive. De Vore also discloses at col. 4, lines 52-66:

The alley boards, indicated in the drawings by the reference numeral 47, and located between the side boards 34 and 35, and said side boards 34 and 35 are secured to the baseboard by adhesive of a suitable and desirable character of which various forms are on the market. As illustrated in Fig. 3 the portions of the sub-baseboard 33 which project laterally of the upper base board 41, said portions being indicated by the reference numerals 48 and 49, have applied thereto, respectively, adhesive 50 and 51. The upper surface of the upper base-board 41 has likewise applied thereto adhesive 52 and which adhesive 50, 51 and 52 securely holds the alley boards 47 as well as the side boards 34 and 35 in operative relation to one another and to the supporting base.

However, De Vores does not show the use of any adhesive for applying to the sides of each of the boards; instead, the adhesive is shown to be applied between a board and a baseboard, for example, which bonds the boards together.

De Vore also does not show any particular adhesive, other than to disclose that it can be of any suitable character of which various forms are on the market. However, it has not been established that any of the adhesives of the claimed invention would be suitable for De Vores application, nor has it been established that any of the adhesives of the claimed invention were on the market at the time of De Vores filing date, e.g., November 14, 1956.

(F) Claims 7 and 40 are rejected under 35 U.S.C. §103(a) for being unpatentable over Heddon and U.S. Patent No. 5,888,142 to Pierre.

The rejection of claims 7 and 40 under 35 U.S.C. §103(a) is in error, and the decision to reject this claim should be reversed. Claims 7 and 40 are dependent claims, depending from distinguishable base claims. By virtue of these dependencies, these claims are also distinguishable.

Also, these claims stand on their own merits as containing allowable subject matter. For example, representative claim 7 recites:

The system of claim 6, wherein remaining sections of the approach section are synthetic boards.

The Examiner is of the opinion that these features are shown at col. 3, line 44 of Pierre. Appellants do not agree. Appellants admit that Pierre discloses that the bowling lane surface can be a synthetic lane construction, which is flanked by gutters 25. However, Pierre is completely silent as to the composition of the approach section, much less remaining sections of the approach section.

Appellants note that it is well known in the art that the bowling lane and the approach section are two distinct areas of the bowling alley. As one of skill in the art would realize, the approach section is provided before the bowling lane, and is a very highly trafficked area (e.g., bowlers use the approach section to approach the bowling lane). Accordingly, as Pierre does not show a synthetic approach lane, the combination of references cannot meet the limitations of claim 7 or claim 40.

(G) **Claims 20, 21, 35 and 36 are rejected under 35 U.S.C. §103(a) for being unpatentable over Heddon and U.S. Patent No. 6,645,082 to Lessard.**

The rejection of claims 20, 21, 35 and 36 under 35 U.S.C. §103(a) is in error, and the decision to reject this claim should be reversed. Claims 20, 21, 35 and 36 are dependent claims, depending from distinguishable base claims. By virtue of these dependencies, these claims are also distinguishable.

(H) Claims 22 and 37 are rejected under 35 U.S.C. §103(a) for being unpatentable over Heddon and U.S. Patent No 4,146,223 to Scottman.

The rejection of claims 22 and 37 under 35 U.S.C. §103(a) is in error, and the decision to reject this claim should be reversed. Claims 22 and 37 are dependent claims, depending from distinguishable base claims. By virtue of these dependencies, these claims are also distinguishable.

(I) Claims 1-12, 15-24, 26-29, 31, 32 and 34-40 are rejected under 35 U.S.C. §103(a) for being unpatentable over De Vore and Heddon and U.S. Patent No. 5,348,513 to Heddon (Heddon II)

The rejection of claims 1-12, 15-24, 26-29, 31, 32 and 34-40 under 35 U.S.C. §103(a) is in error, and the decision to reject this claim should be reversed.

The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness. To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings.¹ Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination

¹ While the *KSR* court rejected a rigid application of the teaching, suggestion, or motivation ("TSM") test in an obviousness inquiry, the [Supreme] Court acknowledged the importance of identifying "a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does" in an obviousness determination. *Takeda Chemical Industries, Ltd. v. Alphapharm Pty., Ltd.*, 492 F.3d 1350, 1356-1357 (Fed. Cir. 2007) (quoting *KSR International Co. v. Teleflex Inc.*, --- U.S. ---, 127 S.Ct. 1727, 1731 (2007)).

and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP §2142. Applicants submit that no proper combination of the applied art teaches or suggests each and every feature of the claimed invention.

Claim 1

Claim recites, in pertinent part:

A prefabricated flooring system adapted for use in a bowling center, comprising an integrated foul line of contrasting material bonded to an edge of the preformed section of wooden boards substantially perpendicular to the longitudinal axis, wherein the integrated foul line is bonded to a milled portion in the edge of the plurality of wooden boards.

The arguments with respect to Heddon presented in the §102(b) rejection are incorporated by reference into the present arguments and, hence, are not repeated again. Appellants submit that the claimed invention is not obvious in view of any combination of these three references, e.g., Heddon, De Vore and Heddon II.

In this rejection, the Examiner admits that De Vore (the primary reference) does not show embedding a foul line at the edge of the lane panels or a prefabricated panel system. The Examiner, though, is of the opinion that Heddon II shows the integrated foul line, and that it would be obvious to use the foul line from Heddon II in De Vore. The Examiner also suggests that it would be obvious to use Heddon for prefabricating the panels off-site. Appellants submit that one of ordinary skill in the art would not combine these references, since:

- (i) The intended function of De Vore would be destroyed; and
- (ii) The De Vore and Heddon reference both teach away from using a system noted in Heddon II.

De Vore and Heddon

De Vore is not directed to a prefabricated flooring system, as admitted by the Examiner. Instead, the flooring system is built at the bowling alley, using many steps. However, the object of De Vore is to provide an upper surface that is not screwed or nailed to the under base so that the life of the lane can be increased or not damaged. To accomplish this objective, base board 33 is attached using screws to transverse beams 25, which already exist in the bowling lane (See, col. 3, line 8, and col. 4, lines 17-30). A second base board 41 is secured to the base board 33, using screws. The alley boards are then adhered to the base board 41 by adhesive. All of the bowling boards are of the same thickness and do not include any nails or screws. After several additional steps the bowling lane is complete.

However, as the base board 33 is attached to transverse beams 25 by screws and the second base board 41 is also secured to the base board 33 by screws, it is impossible to provide this flooring system as a prefabricated piece. Simply it would not be possible to:

- (i) screw the boards 33 and 41 to each other if the alley boards were already attached to the board 41,
- (ii) screw the board 33 to the beams 25 if the alley boards were already attached to the board 41, or
- (iii) adhere the alley boards or other pieces to the base board 41.

In addition, De Vore is completely silent with regard to having a milled portion in the edge of the plurality of wooden boards.

The Examiner suggests, though, that it would be obvious to make the De Vore system prefabricated using the Heddon system. This is not realistic and is mere conjecture on the part of the Examiner. The Examiner is making a combination that is not well supported by any of the references. There simply is no motivation to make such a combination.

Appellants note that De Vore is very specific in the manner in which it constructs its panels. For example, using the Heddon panels would require a complete reengineering of the De Vore system. In fact, there would be no reason or motivation to make such a complete reengineering as the De Vore flooring system and the Heddon flooring system use the same amount of layers, have the same objective of using no nails, and there would be no saving of time overall in the installation process. For example, as there is the same amount of layers used in the floor in both references prefabricating at the factory would take the same amount of time as building on site. Also, of importance and discussed in more detail below, Heddon requires boards of the same thickness, and an advantage of Heddon is to eliminate the need for screws for the alley boards, much like in De Vore. For example, see all figures and col. 2, lines 55-60, which disclose:

Another object of the present invention is to provide prefabricated bowling lane modules which are manufactured without nails or screws and which can be secured to existing bowling alley support structure by a very limited number of nails.²

As to the actual combination, which is not set forth clearly by the Examiner, if the uses the top layer 54 of the Heddon floor panel in De Vore, it is unclear how the straps 60, which are nailed to support structure 34, used in Heddon, could be adopted in the De Vore system. Also, by making such a substitution, there would be way in which to use the base boards 33, 41 and

² In Heddon, the straps 60 are nailed to the preexisting support structure 34. Nails are not used for holding the alley boards to the underlayments.

projecting portions and end planks of De Vore, which may make the lane, itself, inoperable. This would completely destroy the De Vore system and would not be something contemplated by one of ordinary skill in the art. Additionally, it would appear that only the alley boards of De Vore would require replacement; however, in this scenario, the alley boards of De Vore would simply be substituted with the same types of alley boards of Heddon. There would be no cost savings in such a substitution, and hence no motivation to make such a combination of references.

Simply, with all of this said, to make the combination as suggested by the Examiner, would require a complete removal of the De Vore system and such a combination lacks any reasonable expectation of success. As noted in the updated USPTO guidelines regarding KSR,

In view of the cases decided since KSR one situation when it is important to identify a reason to combine known elements in a known manner to obtain predictable results is when the combination requires a greater expenditure of time, effort, or resources than the prior art teachings. Even though the components are known, the combining step is technically feasible, and the result is predictable, the claimed invention may nevertheless be nonobvious when the combining step involves such additional effort that no one of ordinary skill would have undertaken it without a recognized reason to do so. When a combination invention involves additional complexity as compared with the prior art, the invention may be nonobvious unless an examiner can articulate a reason for including the added features or steps. This is so even when the claimed invention could have been readily implemented.

Accordingly, the use of the Heddon floor, in view of the extensive reengineering of De Vore, would clearly require a greater expenditure of time, effort, or resources than the prior art teachings alone. Also, even though the components are known, the combining step is not technically feasible, and the result is not predictable. Moreover, the combining step involves

additional effort and such complexity that no one of ordinary skill would have undertaken it without a recognized reason to do so (which was not provided by the Examiner).³

Lastly, Even assuming that the combination of De Vore and Heddon is proper, as suggested by the Examiner, this system would still not include a milled portion in the edge of a plurality of panels. In fact, by substituting the De Vore panels, Heddon would only have a single board. Vore or Heddon do not address a milled section.

De Vore, Heddon and Heddon II

Appellants submit that the combination of De Vore, Heddon and Heddon II is improper, and both De Vore and Heddon teach away from using the Heddon II integrated foul line. Also, Heddon alone does not show the remaining features missing from De Vore and Heddon.

Heddon II shows a J-shaped foul line coupling 42 connected to a single synthetic panel or a panel 40. Even assuming that the J-shaped foul line coupling 42 is the foul line, there is no indication that it is of a contrasting color. In fact, the figures of Heddon II all show the top surface of the two connected panels, e.g., 44 and 46, have the same surface shading as that of the J-shaped foul line coupling 42. This would clearly represent the features of the J-shaped foul line coupling 42 being of the same color. Also, the J-shaped foul line coupling 42 is not bonded to a milled portion in the edge of the plurality of wooden boards. Instead, the J-shaped foul line coupling 42 is screwed to a panel 40 and a synthetic lane panel 44. A synthetic lane panel is not a wooded board and the panel 40 is only a single board, not a plurality of boards as recited in the claimed invention.

³ In this scenario, there is no recognized reason to make a combination as suggested by the Examiner, as the De Vore system works in its intended manner and already meets its objectives. The mere speculation that the Heddon system is less expensive is also mere conjecture on the part of the Examiner. In fact, prefabricated systems, although saving installation time at the "site", can be just as expensive since all of the same components must still be built.

Appellants also submit that there would be no motivation to combine De Vore and Heddon with Heddon II. The combination would not even work and, in fact, the De Vore and Heddon references both teach away from using screws to hold the alley boards, which is required for using the J-shaped foul line coupling 42 in Heddon II. First, De Vore and Heddon make no mention of milling a portion of the panels to accommodate a foul line or using two different types of boards for the approach and the bowling lanes. Both De Vore and Heddon use boards of the same thickness for both the approach and the bowling lane. For this reason, alone, there would be no way to accommodate the J-shaped foul line coupling 42 of Heddon II.

Specifically, Appellants submit that if one were to use the Heddon prefabricated panels in De Vore, it would not even be possible to use the J-shaped foul line coupling 42 of Heddon II in such an arrangement. Also, one of skill in the art would not use this system, since both the Heddon and De Vore references clearly teach away from using nails in the alley boards, which would be necessary when using the J-shaped foul line coupling 42 of Heddon II.

First, the use of the J-shaped foul line coupling 42 would make it impossible to use the splice plank 44 of Heddon to join the modules, or the abutting boards of De Vore. That is, the J-shaped foul line coupling 42, which completely separates the two panels 44 and 46 of Heddon II, require boards of different thickness. This arrangement, though, would prevent the splice plank 44 of Heddon to be used to connect adjoining modules. Because of the required arrangement needed for Heddon II to use the J-shaped foul line coupling 42 of Heddon II, there would be no way in which to connect the modules of Heddon (or De Vore), in its designed manner.

The J shaped coupling member 42 separates the two panels, making it impossible for a splicing plank to be used to join the panels.

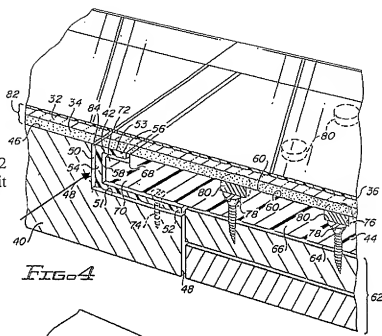


FIG. 4

The J shaped coupling member 42 would prevent the use of the splicing plank 44 to be used to join the panels.

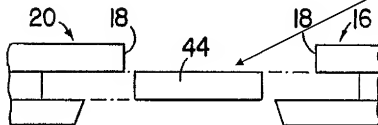


FIG. 12

More specifically, in all of the embodiments of Heddon II, the board 44 (for the approach lane) is of a different thickness than the board 40 (for the bowling lane). In Heddon, boards 62 raise the board 44 so that it is the same height as the board 40. The different thickness allow for the J shaped coupling member 42 to be used to connect the boards 44, 40, and 62 together with screws. For example, board 40 includes a notch on the upper side so that the J-shaped coupling

member 42 can be screwed to the notched portion. The board 44, on the other hand, includes a notch on its upper side, so that the board 44 can slip into the J-shaped coupling member 42. Once the board 44 is inserted into the J-shaped coupling member 42, the board 44 is then screwed into the boards 62, tying the entire assembly together. However, such a connection mechanism would not be possible with boards of the same thickness, as is shown in both De Vore and Heddon.

Also, the only way to connect the J-shaped coupling member 42 is by screws so that the interconnecting panels 40, 44 and 62 can be fixed together. However, both Heddon and De Vore specifically require adhesives and not nails. That is, Heddon and De Vore teach away from using nails. As such, there would be no motivation to combine Heddon II with either Heddon or De Vore, and such a combination would clearly destroy the intended use of Heddon and/or De Vore.

Keeping all of the above in mind, to make the combination as suggested by the Examiner would require another complete reengineering of De Vore and Heddon systems in order to use the splice planks of Heddon or eliminate the need for screws in Heddon II (for connecting the J-shaped coupling member 42). For this reason, the suggested combination requires a greater expenditure of time, effort, or resources than the prior art teachings, alone. Also, the combining step involves such additional effort that no one of ordinary skill would have undertaken it without a recognized reason to do so, which is not provided or existent. That is, it would be necessary for one of skill in the art to engineer a way to connect the modules of Heddon and the J-shaped coupling member 42. Also, using this same reasoning, there is such an added complexity to make this combination as suggested by the Examiner that the claimed invention could have been readily implemented and the results surely would not have been predictable.

It also is not clear that Heddon II shows the J-shaped foul line coupling 42 is used as the foul line, itself. Specifically, as col. 5, line 42 to col. 6, line 44, discloses:

The bowling alley lane is constructed by attaching both the elongated lane panel 16 and the approach panel 10 onto substructure 24. Lane markings 28 are then applied to top surface 18 of elongated lane panel 16. The markings 28 are preferably attached to the lane using contact tape. However, other methods of constructing markings may also be used, including etching the marking 28 into the panel itself. Once markings 28 have been placed on top surface 18 a clear flexible plastic film barrier 32, having a contact adhesive 34, is applied to one side of the film barrier 32. The adhesive 34 is applied between the film barrier. 32 and the approach panel 10 or lane panel 16. A preferable method of applying plastic film barrier 32 to panels 10 or 16, is similar to the method of applying plastic film to a floor as described in U.S. Pat. No. 4,795,152, U.S. Pat. No. 4,867,816 and U.S. Pat. No. 4,944,514, which are hereby incorporated by reference. The thickness of the plastic is also preferably the same thickness as the film described in the aforementioned patents.

Once plastic film barrier 32 has been extended over the lane panel 16 and approach panel 10, a lane finish material 36 may then be applied over film barrier 32. Examples of lane finishes include HONOR ROLL, manufactured by Polymetrics, Inc. of Maitland, Florida, and U300 manufactured by Perry-Austen of Des Moines, Iowa. Other lane finishes include a top coat of urethane with a slip agent such as silicon glyceride, or epoxies with good plastic film adhesive characteristics. The lane finish material 36 provides the proper resistance to bowling bowls when rolling over the lane. It is preferable that the lane finish that is used be applied as a liquid and then cured to form an integrally hardened finish.

Plastic film barrier 32 is thus used as an inner layer so as to allow the permanent hardened lane finish material 36 to be easily removed when refinishing the lane. Once the lane finish material 36 has been placed over plastic film barrier 32, the lane is ready for use. It is recognized that through time, this hardened lane finish will become scratched and scuffed up and thus will have to be replaced. This lane finish material 36 is easily removed by peeling up film barrier 32 from approach panel 10 and lane panel 16. Once film barrier 32 has been removed, the adhesive 34 may easily be cleaned from the phenolic with known adhesive-removing solvents. Once the lane has been cleaned, a new plastic film barrier 32 is placed on the lane and a new lane finish material 36 is coated over the film barrier 32. It is contemplated that the

case of which this lane finish material 36 is removed provides advantages in lane refinishing.

Referring now to FIG. 4, in accordance with the present invention a wood approach panel 40 is coupled with a J-shaped foul line coupling 42 to a synthetic lane panel 44. Wood approach panel 40 has a flat top surface 46 and a front side 48. A notch 50 is cut from a portion of approach panel 40 and extends from the top of its front side 48 to form a step 51. Resting on this step 51 is J-shaped foul line coupling 42. J-shaped foul line coupling 42 includes a flat bottom portion 52 integrally connected to a perpendicular riser portion 54. Riser portion 54 extends upwards from bottom portion 52 and terminates in a top portion 56. Top portion 56 has a flat top surface 53 that extends away from panel 40, extends perpendicular to riser portion 54 and parallel to bottom portion 52. Bottom portion 52 with riser portion 54 and top portion 56 partially enclose open portion 58. J-shaped foul line coupling 42 and bottom portion 52 rests on step 51. Flat top surface 53 is preferably coplanar with flat top surface 46 and, as discussed below, this may be achieved as necessary by shimming the bottom 52.

Claim 18

Claim recites 18 recites, in pertinent part:

... wherein the preformed section of wooden boards is a prefabricated sectioned approach section totally filling an area of the bowling lane in addition to gutter area.

The arguments with respect to Heddon presented in the §102(b) rejection are incorporated by reference into the present arguments and, hence, are not repeated again. The arguments with respect to Heddon presented in the §102(b) rejection are incorporated by reference into the present arguments and, hence, are not repeated again. Appellants submit that the claimed invention is not obvious in view of any combination of these three references, e.g., Heddon, De Vore and Heddon II .

Appellants submit that regardless of any combination, there is no teaching in any of the references to show that a prefabricated sectioned approach section totally fills an area of the

bowling lane in addition to gutter area. As discussed above, Heddon clearly does not teach such a feature and, accordingly, the combination of Heddon and De Vore would not show this feature. Heddon II and De Vore is also silent with regard to the dimensions of the approach lane.

Claim 24

Claim recites 24 recites, in pertinent part:

the prefabricated approach section having a thickness
approximately the same as the bowling lane, which is a laminate
floor.

The arguments with respect to Heddon presented in the §102(b) rejection are incorporated by reference into the present arguments and, hence, are not repeated again. The arguments with respect to Heddon presented in the §102(b) rejection are incorporated by reference into the present arguments and, hence, are not repeated again. Appellants submit that the claimed invention is not obvious in view of any combination of these three references, e.g., Heddon, De Vore and Heddon II .

Appellants note that the Examiner is not using Heddon II for any features of claim 24. In any event, Heddon II clearly shows that the approach section does not have a thickness approximately the same as the bowling lane. In fact, in each of the embodiments shown, Heddon II shows that the approach lane has a thickness substantially smaller than the bowling lane. This is clearly seen by the fact that boards 44 and 40 are of different thicknesses. Based on this, there is no combination using Heddon II that can be used with Heddon and De Vore that can achieve the claimed invention.

Heddon also does not show the features of the claimed invention. As discussed above, Heddon shows five modules 10, 12 14, 16 and 20 that are identical to one another, but none of them are laminates as recited in the claimed invention. De Vore also does not describe the

approach section, but instead focuses on the bowling lane. The Examiner, though, is insistent that approach section and bowling lane are the same. For example, the Examiner notes:

We can further see from U.S. Patent 7,022,024 that the term "bowling lane" applies to all sections of the lane including the "approach area, a pin deck area and a lane area" (col. 1, In. 53). Likewise, see 6,988,953, col. 1, Ins. 11-19 and 6,645,082, col. 1, In. 10.

This is not true, as even Heddon II recognizes that there are different needs for the approach section and the bowling lane, hence different types of material used for these different sections. The approach section and the bowling lane are two different, distinct features of the bowling alley. They have different features, different functions and are provided at different locations. The approach section, for example, is a very high wear area that requires special attention. The bowling lanes, on the other hand, require different attention such as, for example, smoothness, planarity and special resins placed thereon to ensure a proper ball roll.

Claim 38

Claim 38 recites:

A prefabricated flooring system adapted for use in a bowling center, comprising a plurality of wooden boards having a longitudinal axis, the plurality of wooden boards each having a long side edge and a short side edge, the short side edges of abutting wooden floors of the plurality of wooden floors having interleaved finger joints bonded together by an adhesive applied thereon and abutting wooden floors along the long sides being bonded together by an adhesive applied thereto with two of the outermost boards of the plurality of wooden boards being bonded only on one side edge by the adhesive to adjacent corresponding interior boards to form a preformed section of wooden boards.

In this rejection, the Examiner is using De Vore to show the use of interleaved joints bonded together by an adhesive. De Vore does not show short edges that have interleaved finger

joints. Although the Examiner equates dovetails with interleaved finger joints, Appellants submit that these are not the same as understood by those of skill in the art and as presented in De Vore. Instead, De Vore clearly refers to dovetails as the planks of wood (e.g., reference numeral 17, 18) and the pattern that is made with the planks of wood. Also, the dovetails are clearly shown and described to be in the bowling lane, not the approach. Additionally, in De Vore, the short edges of each plank of wood are merely being adhered to one another by an adhesive to an underlayment. They are flat edges, abutting one another. Instead, the interleaved fingers of the present invention refer to the mechanism for locking panels together on the short edges.

Dependent Claims 2-12, 15-17, 19-23,
26-29, 31, 32 and 34-37, 39 and 40

Claims 2-12, 15-17, 19-23, 26-29, 31, 32 and 34-37, 39 and 40 are dependent claims, depending from distinguishable base claims. By virtue of these dependencies, these claims are also distinguishable.

Claim 16

Claim 16 recites:

The system of claim 15, wherein the groove is located at (i) a middle of the edge such that the foul line is a T shape, (ii) a bottom of the edge such that the foul line is an L shape or (iii) a top of the edge such that the foul line is a block.

Appellants submit that none of these features are shown in the combination of references. For example, as discussed above Heddon does not show this feature. Even assuming that reference numeral 18 is a foul line of contrasting color, Heddon still does not show the foul line as (i) a T shape, (ii) an L shape or (iii) a block. Reference numeral 18 is only a joint between two modules 12 and 14. Heddon II, on the other hand, only shows a “J” foul line coupling member.

Claim 17

Claim 17 recites:

The system of claim 1, wherein a width of the preformed section of wooden boards is greater than a bowling alley lane.

Appellants submit that Heddon does not show this feature. As discussed above, Heddon does not show any of the modules larger than a width of the bowling lane, itself. For example, the bowling lane modules and the approach lane modules are described as being the same width. The approach filling means, on the other hand, only fills a gap formed between gutters. Accordingly, there are no modules in Heddon that show a width of the preformed section of wooden boards is greater than a bowling alley lane.

Conclusion

In view of the foregoing remarks, Appellants submit that claims 1-12, 15-24, 26-29, 31, 32 and 34-40 are patentably distinct from the prior art of record and are in condition for allowance. Accordingly, Appellants respectfully request that the Board reverse the Examiner's rejection of claims 1-12, 15-24, 26-29, 31, 32 and 34-40 and remand the application to the Examiner for allowance of the pending claims.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Andrew M. Calderon', written over a horizontal line.

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(VIII) CLAIMS APPENDIX

The following is a listing of the claims involved in the appeal.

1. A prefabricated flooring system adapted for use in a bowling center, comprising a plurality of wooden boards having a longitudinal axis, the plurality of wooden boards each having substantially flat side edges along the longitudinal axis, interior boards of the plurality of wooden boards being bonded together by an adhesive applied on the side edges and two of the outermost boards of the plurality of wooden boards being bonded only on one side edge by the adhesive to adjacent corresponding interior boards to form a preformed section of wooden boards, and an integrated foul line of contrasting material bonded to an edge of the preformed section of wooden boards substantially perpendicular to the longitudinal axis, wherein the integrated foul line is bonded to a milled portion in the edge of the plurality of wooden boards.
2. The system of claim 1, wherein a thickness of the plurality of wooden boards is less than 2 3/4 inches.
3. The system of claim 1, wherein a thickness of the plurality of wood boards is approximately 3/4 inches.
4. The system of claim 3, wherein the prefabricated flooring system is used in an approach section of a bowling lane and is greater than 42 inches in width.
5. The system of claim 1, wherein the adhesive is one of:
 - (v) cold or hot pressed curing adhesive;
 - (vi) air drying PVA (Polyvinyl acetates) adhesive;

- (vii) hot melt urethanes; and
- (viii) radiation curing adhesive.

6. The system of claim 1, wherein the prefabricated preformed section is used as a section of an approach section of a bowling lane.

7. The system of claim 6, wherein remaining sections of the approach section are synthetic boards.

8. The system of claim 1, further comprising a finish on the wooden boards.

9. The system of claim 1, wherein the preformed section of wooden boards includes an underlayment.

10. The system of claim 9, wherein the underlayment is at least one layer of fiberboard.

11. The system of claim 10, wherein the fiberboard is medium density fiber (MDF) or high density fiber (HDF) board or oriented strand board (OSB) or high density particle board (HDP).

12. The system of claim 11, wherein the underlayment is bonded to the plurality of wooden boards by adhesive or fastening device.

15. The system of claim 1, wherein the milled portion is a groove.

16. The system of claim 15, wherein the groove is located at (i) a middle of the edge such that the foul line is a T shape, (ii) a bottom of the edge such that the foul line is an L shape or (iii) a top of the edge such that the foul line is a block.

17. The system of claim 1, wherein a width of the preformed section of wooden boards is greater than a bowling alley lane.

18. A prefabricated flooring system adapted for use in a bowling center, comprising a plurality of wooden boards having a longitudinal axis, the plurality of wooden boards each having substantially flat side edges along the longitudinal axis, interior boards of the plurality of wooden boards being bonded together by an adhesive applied on the side edges and two of the outermost boards of the plurality of wooden boards being bonded only on one side edge by the adhesive to adjacent corresponding interior boards to form a preformed section of wooden boards, wherein the preformed section of wooden boards is a prefabricated sectioned approach section totally filling an area of the bowling lane in addition to gutter area.

19. The system of claim 1, wherein the preformed section of wooden boards is approximately equal to a width of a bowling alley lane.

20. The system of claim 1, wherein the preformed section includes drilled holes for the insertion of fasteners for fastening to a sub floor.

21. The system of claim 20, further comprising plugs for plugging the drilled holes.

22. The system of claim 1, further comprising contrasting dowels used as range finders.

23. The system of claim 1, wherein the plurality of wooden boards include abutting short edges joined by an interleaved finger joint.

24. A bowling alley flooring system comprising:

a bowling lane; and

a prefabricated approach section abutting the bowling lane, the prefabricated approach section comprising:

a plurality of wooden boards having a longitudinal axis, the plurality of wooden boards each having side edges along the longitudinal axis, the plurality of wooden boards being bonded together by an adhesive applied on the side edges wherein two of the outermost boards of the plurality of boards are bonded only on one side edge by the adhesive to adjacent corresponding interior boards to form the prefabricated approach section of wooden boards,

the prefabricated approach section having a thickness approximately the same as the bowling lane, which is a laminate floor.

26. The bowling alley flooring system of claim 24, wherein the prefabricated approach section has a thickness of approximately less $23/4$ inches.

27. The bowling alley flooring system of claim 24, wherein the prefabricated approach section has a thickness of approximately $3/4$ inches.

28. The bowling alley flooring system of claim 24, wherein the prefabricated approach section has a width greater than the bowling lane.

29. The bowling alley flooring system of claim 24, wherein the adhesive is one of:

- a. cold or hot pressed curing adhesive;
- b. air drying PVA (Polyvinyl acetates) adhesive;
- c. hot melt urethanes; and
- d. radiation curing adhesive.

31. The bowling alley flooring system of claim 29, further comprising a curable finish on the prefabricated approach section of wooden boards.

32. The bowling alley flooring system of claim 24, wherein the prefabricated approach section includes a an underlayment of at least one layer of medium density fiber (MDF) or high density fiber (HDF) board or oriented strand board (OSB) or high density particle board (HDP).

34. The bowling alley flooring system of claim 24, further comprising an integrated foul line of contrasting material bonded to an edge of the prefabricated approach section substantially perpendicular to the longitudinal axis.

35. The bowling alley flooring system of claim 24, wherein the prefabricated approach section includes drilled holes for the insertion of fasteners for fastening to a sub floor.

36. The system of claim 24, further comprising plugs for plugging the drilled holes.

37. The system of claim 24, further comprising contrasting dowels used as range finders.

38. A prefabricated flooring system adapted for use in a bowling center, comprising a plurality of wooden boards having a longitudinal axis, the plurality of wooden boards each having a long side edge and a short side edge, the short side edges of abutting wooden floors of the plurality of wooden floors having interleaved finger joints bonded together by an adhesive applied thereon and abutting wooden floors along the long sides being bonded together by an adhesive applied thereto with two of the outermost boards of the plurality of wooded boards being bonded only on one side edge by the adhesive to adjacent corresponding interior boards to form a preformed section of wooden boards.

39. The system of claim 38, wherein the preformed section of wooden boards is at least a section of an approach area.

40. The system of claim 39, wherein remaining portions of the approach area are laminate boards of synthetic material or residual wood approach.

(IX) EVIDENCE APPENDIX

This section lists evidence submitted pursuant to 37 C.F.R. §§1.130, 1.131, or 1.132, or any other evidence entered by the Examiner and relied upon by Appellant in this appeal, and provides for each piece of evidence a brief statement setting forth where in the record that evidence was entered by the Examiner. Copies of each piece of Evidence are provided as required by 37 C.F.R. §41.37(c)(1)(ix).

NO.	EVIDENCE	BRIEF STATEMENT SETTING FORTH WHERE IN THE RECORD THE EVIDENCE WAS ENTERED BY THE EXAMINER
1	N/A	N/A

(X) RELATED PROCEEDINGS APPENDIX

Pursuant to 37 C.F.R. §41.37(c)(1)(x), copies of the following decisions rendered by a court or the Board in any proceeding identified above in the Related Appeals and Interferences section.

NO.	TYPE OF PROCEEDING	REFERENCE NO.	DATE
1	N/A	N/A	N/A